South Central Region, Area 2

Integrated Roadside Vegetation Management Plan

2016

Washington State Department of Transportation

Maintenance and Operations Division

Introduction

The Washington State Department of Transportation (WSDOT) South Central Region Area 2 manages approximately 680 miles of transportation corridor throughout Yakima, Kittitas, Benton and Lewis Counties. This right-of-way is part of the state highway system including I-82, US-12, US 97, SR 24, SR 821, as well as a number of other secondary state routes. A map of the area and roads maintained is included on the following page.

The primary roadside vegetation management objectives are in relation to traffic safety and preservation of the highway infrastructure. Additionally, as a landowner WSDOT is required to control all listed noxious weeds that occur on the right-of-way by state law (RCW 17.10 and 15.15.010). It is important that WSDOT not only meet the legal requirements for weed control, but also consider the needs and concerns of adjacent landowners in this area.

In order to best manage roadsides with these priority objectives in mind, WSDOT works within budget and practices an annually cycling process called Integrated Vegetation Management (IVM). Plans like this are maintained and updated annually for all areas of the state with an overall goal of establishing the most naturally self-sustaining roadsides vegetation possible. Adjustments are made year to year in each area plan based on monitoring the previous years' accomplishments and results, available budget, and prioritization of other highway maintenance activities.

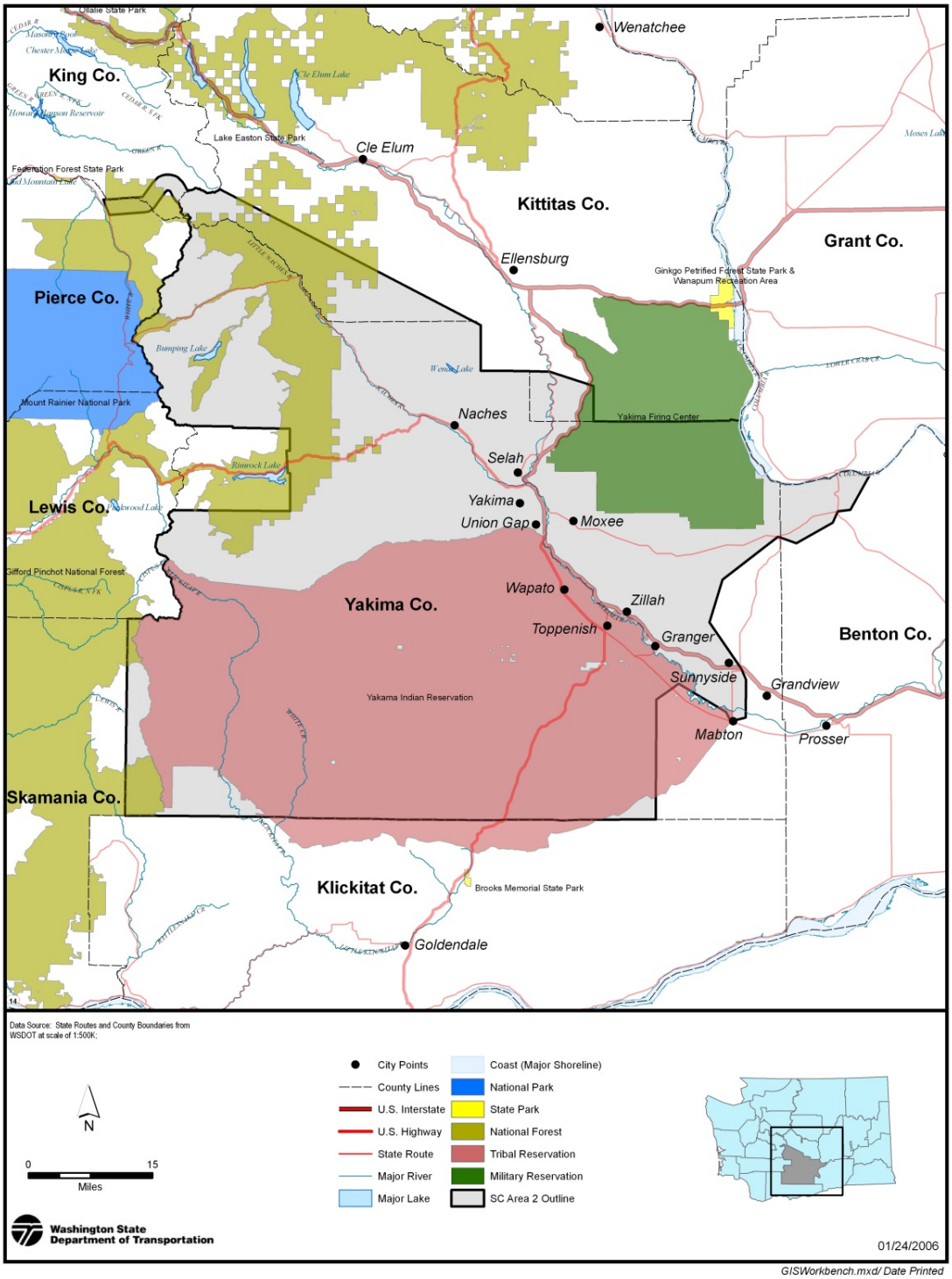
This plan serves as the guidance document for vegetation maintenance in South Central Region Area 2 for the 2016 growing season. It provides detailed treatment prescriptions for accomplishing safety and weed control objectives through the use of a combination of control measures. Each year's actions are designed as part of a coordinated multi-year strategy to minimize roadside maintenance requirements wherever possible. This plan also accounts for specific locations where maintenance tactics are adjusted due to environmental issues, neighboring properties, local partnerships, or restoration work done through WSDOT design and construction.

Beginning with the 2016 season, the information contained in this plan document can be geographically referenced by crews in the field using iPads and the Highway Activity Tracking System (HATS). Accomplishments and results will also be tracked through this new system. This development in WSDOT maintenance management will greatly improve the agency's success in properly executing actions, monitoring and documenting results of treatments, and in measuring cost and results over time.

WSDOT welcomes input from local public and private entities on its weed control and other vegetation management activities. Wherever appropriate the agency is looking for opportunities to plan and cooperate with others in managing the roadside. Please direct any questions, comments or suggestions to the South Central Region Area 2 Superintendent – Les Turnley, or the State's Roadside Asset Manager – Ray Willard.

Les Turnley
Maintenance Superintendent
turnleyl@wsdot.wa.gov
(509)577-1920
900 E. Selah Rd.
Yakima, WA 98901

Ray Willard, PLA
State Roadside Asset Manager
willarr@wsdot.wa.gov
(360)705-7865
PO Box 47358
Olympia, WA 98504-7358



South Central Area 2 – Vicinity Map
Figure 1

The section outlines the overall approach and geographic distribution of roadside vegetation management requirements throughout the maintenance area in 2016. Information is organized in relation to four groups defined in the WSDOT Maintenance Accountability Program (MAP) for the performance of roadside vegetation maintenance activities: **Control of Vegetative Obstructions**, **Noxious Weed Control**, **Nuisance Vegetation Control,** and **Landscape Maintenance**. Specific locations as noted in this work plan are also mapped in the Highway Activity Tracking System (HATS) for reference by maintenance in the field.

Control of Vegetative Obstructions – 3A4

The work of this group of maintenance activities relates to the safety and operational requirements of the highway. These items are considered first priority in terms of the overall roadside maintenance needs. Vegetation management objectives and work activities in this category fall into four groups – **Pavement Edge Maintenance/Zone 1**, **One Pass Mowing/Zone 2**, **Tree and Brush Control/Zone 2 and 3**, and **Hazard Tree Removal/Zone 3**.

Pavement Edge Maintenance/Zone 1
Work Operation: 1615
HATS Other Form: Spray Zone 1

This work includes the application of herbicides to road shoulders in a select set of corridors and locations throughout the area. The objective of these applications in the designated locations is maintenance of a 2 to 4 foot gravel shoulder that is free of vegetation. This treatment is necessary in the locations described below to provide visibility and maintainability of roadside hardware and guideposts, room for vehicles to pull off on shoulders, stormwater drainage, and/or added visibility of wildlife approaching the highway.

Total Units of Planned Treatment

- Apply approximately **400 acres** of herbicide treatment to road shoulders throughout the area.

Locations of Planned Treatments

- Planned treatment sites are mapped in HATS layer – **Spray Zone 1 Reference**.
- Locations where bare ground treatments will be applied to all gravel shoulder sections include:
  - US 12 Milepost 199.89-202.5
  - SR 24 Milepost 0-6.47
  - I-82 Milepost 30-36
- Locations where no bare ground treatment will be applied include:
  - US 12 Milepost 138.6-190.4
  - SR 410 Milepost 69.21-116.37

Treatment Methods

- All noted locations will be treated in spring with the following mixture of herbicides and adjuvants:
  - Krovar, Oust XP, In-Place, Blazon Blue, Unfoamer
  - Esplanade, Perspective, In-Place, Unfoamer
  - Perspective, Unfoamer, Spreader 90
  - Arsenal, Roundup-Pro Concentrate, Spreader 90
  - Diuron 4L, Oust XP, Unfoamer, In-Place

One Pass Mowing/Zone 2
Work Operation: 1625
HATS Other Form: Mowing Zone 2

This work includes routine mechanical cutting of vegetation on the road shoulder immediately adjacent to pavement. Mowing is necessary in areas with taller growing grasses or other vegetation are present and must be annually or semi-annually cut back for visibility and maintenance of roadside hardware and delineators, to maintenance traffic sight distance at curves and intersections, and for improved visibility of wildlife approaching the highway.

Total Units of Planned Mowing

- Approximately 800 acres

Locations of Planned Mowing

- US 12 Milepost 199-202.5
- SR 24 Milepost 0-6.47
- I-82 Milepost 31-38
- I-82 Milepost 50-69

Treatment Methods

- Mowing with 3 gang mower

Tree and Brush Control/Zone 2 and 3
Work Operations: 1622, 1625, 1626
HATS Other Forms: 4 sub-forms under Tree/Brush Control – Spray, Trimming Mechanical, Trimming Manual, and Mowing

This includes work in Zone 2 such as periodic trimming or removal of brush and trees encroaching on traffic operations and visibility. Also included is work in Zone 2 and 3 when controlling emergent undesirable tree species to prevent them from growing into hazard trees.

Total Units of Planned Treatment

- Approximately **200 acres** will be treated throughout the area.

Locations of Planned Treatments

- As needed

Treatment Methods

- Spray late season for seedlings and light trimming on encroaching branches
- Trimming manually with chain/pole Saws, Trimming Manually, Mowing unwanted seedlings with 3 Gang or Side Arm Mower.

Hazard Tree Removal/Zone 3
Work Operation: 1628
HATS Other Forms: 3 sub-forms under Hazard Tree Removal – Individual Tree Removal, Stand Removal, and Cleanup Fallen Trees

Trees within and adjacent to the right of way are routinely monitored by maintenance staff for potential risk to the highway and/or neighboring structures. Individual and stands of trees identified as a potential imminent threat will be evaluated using best arboricultural judgment and removed as soon as possible where needed.

Total Units of Planned Treatment

- Less than 100 hazardous trees

Locations of Planned Treatments

- As identified throughout the year

Treatment Methods

- Chain saws, Chipper
- Timber is left to decompose on site wherever possible

Noxious Weed Control – 3A2

This group of activities is focused on control of weed species that are legally designated by state and county regulations for required control by all property owners. Work under this group is considered second priority after safety related objectives have been addressed. In some counties noxious weed laws may be enforced with fines and/or control work by the counties and billing of property owners if adequate control is not accomplished. WSDOT communicates annually and throughout the season with each County Noxious Weed Board to identify and prioritize infestations and planned control efforts on state highways.

In most cases the primary goal in noxious weed control is to prevent seed production and to reduce population levels where possible. The majority of IVM treatments are carried out as needed throughout the growing season on all highways in the area to accomplish this using a combination of manual, mechanical, herbicide, and/or biological agents. In addition, WSDOT and the County Noxious Weed Boards have identified a set of highest priority infestations where complete eradication and/or prevention of spread into uninfested regions are the goals.

General Noxious Weed Control

Work Operations: 1616, 1618, 16

HATS Forms: 4 sub-forms under Noxious Weed Control/General – Noxious Weed Control/Spray, Noxious Weed Control/Mechanical, Noxious Weed Control/Manual, and Noxious Weed Control/Biological

These operations are timed and carried out throughout the season to prevent the spread of legally designated noxious weed species, and to reduce or eliminate populations wherever possible. Integrate treatment plans combine field monitoring and a mixture of seasonally timed treatment methods with proven effectiveness on designated species. Successful plans are consistently implemented over a series of years and annually adjusted as necessary based on field observations. Care must be taken in all cases to avoid damage to surrounding desirable/native vegetation.

Designated Species Known to Exist on WSDOT Right of Way

- Cereal rye *(Secale cereal)*
- Common reed *(Phragmites australis)*
- Hoary alyssum *(Berteroa incana)*
- Houndstongue *Cynoglossum officinale)*
- Knapweed, meadow *(Centaurea jacea x nigra)*
- Knapweed, spotted *(Centaurea stoebe)*
- Knotweed, Japanese *(Polygonum cuspidatum)*
- Loosestrife, purple *(Lythrum salicaria)*
- Rush Skeletonweed *(Chondrilla juncea)*
- Scotch broom *(Cytisus scoparius)*
- Spurge, myrtle *(Euphorbia myrsinites)*
- Tansy ragwort *(Senecio jacobaea)*
- Thistle, Scotch *(Onopordum acanthium)*
- Yellow starthistle *(Centaurea solstitialis)*

Total Units of Planned Treatment

- Approximately **40 acres** will be treated with a mixture of herbicide treatments and other methods

Locations of Planned Treatments

- Priority treatment sites as agreed upon with the county weed board and mapped in HATS.

Treatment Methods and Timing

- Seasonal timing is critical to successful reduction in weed populations. However, in some cases the only possible treatments are made mid-season, simply to control seed production, rather than to reduce populations.

- In an effort to reduce or eliminate early infestation populations seasonal target species and locations will be identified and mapped in HATS. Species targeted for seasonal timing include:

  Early Season Targets
  - Rush Skeletonweed
  - Yellow Starthistle

Priority Noxious Weed Control
Work Operations: 1616, 1618, 1641, 1699
HATS Feature-based Forms: 4 sub-forms tied to points, layer Noxious Weed Control Priority – Noxious Weed Control/Spray, Noxious Weed Control/Mechanical, Noxious Weed Control/Manual, and Noxious Weed Control/Cultural

These operations are directed at locations where Class A noxious weed species are present on the right of way and state law requires complete eradication. Site specific integrated treatment plans are developed for each identified location/species. Ongoing operations will combine field monitoring and a mixture of seasonally timed treatment methods over a series of years. Sites must also be monitored for 3 to 5 years after control to check for grow back.

Species and Locations

- No Class A noxious weeds have been located on the highway right of way in this area at this time.

Locations of Planned Treatments

- If infestations are discovered, they will be recorded as features in HATS layer – **Noxious Weed Control Priority** for species location and distribution.

Nuisance Vegetation Control – 3A3

Nuisance vegetation control includes control/management of weed species that are recommended but not mandated by state and/or county law. These maintenance activities also may address vegetation growth that presents a publically perceived negative visual impact. Because nuisance weed control activities are not legally mandated and the do not pose a safety risk, they are considered the last priority vegetation management needs. Maintenance funding currently only allows for control of nuisance weed species in designated higher profile areas such as urban freeway corridors and at interchanges or when they are growing alongside designated noxious weed species and control is incidental.

Nuisance Vegetation
Work Operations: 1611, 1612, 1699
HATS Feature-based Forms: 4 sub-forms tied to polygons, layer Nuisance Vegetation Control Zone 3 – Herbicide Application, Manual/Mechanical, Biological, and Seed/Fertilize/Mulch

Nuisance vegetation control operations are only conducted in a limited number of locations as described below and areas mapped in HATS as polygons. Maintenance activities in each identified location are planned based on a multi-year treatment strategy utilizing monitoring and the most effective combination of control methods with a goal of establishing desirable vegetation requiring only minimal maintenance. Care must be taken in all cases to avoid damage to surrounding desirable/native vegetation. In some cases, soil enhancements may be used as well as seeding or planting of beneficial competition species. Successful plans are consistently implemented over a series of years and annually adjusted as necessary based on field observations.

Total Units of Planned Treatment

- Approximately **400 acres** will be treated with herbicides for nuisance weed control.
- No mowing for nuisance vegetation will be done in this maintenance area.

Locations of Planned Treatments

- Reference HATS layer – **Nuisance Vegetation Management**.

Treatment Methods and Timing

- Application of selective pre-emergent herbicide within Yakima Corridor Area.
- Engage local partners, such as City and County Governments, local businesses, and bordering land owners to take interest and support our vegetation management program & policies. Propose agreements and shared cost strategies.

Landscape Maintenance – 3A5

Landscape maintenance work includes all vegetation management activities that take place on roadsides within areas designated as formal urban planting areas where the intention is to enhance the appearance of freeways through urban centers. For these roadsides the goal is to maintain healthy plantings in all three zones and to control all weeds. Planted vegetation is intended to be preserved and enhanced over time through pruning, hedging, trimming, and fertilization where necessary.

Landscape

Work Operations: 1516, 1518, 1525, 1541, 1552, 1561, 1599

HATS Feature Form: 1 form tied to polygons, layer Landscape Maintenance – Landscape Maintenance

Landscape maintenance operations are only conducted in a limited number of locations as described below and mapped in HATS. Maintenance activities in each identified location are planned based on a multi-year treatment strategy. Treatment decision are based on monitoring and the proven most effective combination of maintenance actions, to keep plantings (and lawns if present) looking healthy and trimmed throughout the year.

Total Units of Planned Treatment

- There are approximately **62 acres** of formally landscaped roadside.

Locations of Planned Treatments

- Reference HATS layer – **Landscape Maintenance**.
- Locations of designate formal landscape include:
  - US 12 in the vicinity of North 1st Street Interchange
  - Interstate 82 in the vicinity of North 1st Street Interchange
  - Interstate 82 in the vicinity of Yakima Avenue Interchange
  - Interstate 82 in the vicinity of Nob Hill Blvd. Interchange
  - Interstate 82 in the vicinity of Valley Mall Blvd. Interchange

Treatment Methods and Timing

- Fertilize turf, trees, and shrubs early spring.
- Casoron around trees and shrubs, early spring.
- Mow turf April – October.
- Spray Roundup in turf areas around trees and borders to delineate from mowing activities; early spring and late summer if needed.
- Prune/trim trees and shrubs, late fall, winter, early spring or as needed.
- Maintain and perform necessary repairs to landscape irrigation system – April – October.